

Remarks

Claims 18-26 were pending in the subject application. By this Amendment, claims 18-21 and 26 have been amended and claims 27-33 have been added. The undersigned avers that no new matter is introduced by this amendment. Accordingly, claims 18-33 are currently before the Examiner for consideration. Entry and consideration of the amendments presented herein is respectfully requested.

The applicants and the applicants' representative wish to thank Examiner McCormick-Ewoldt and Supervisory Examiner Campell for the courtesy of the telephonic interview conducted with the undersigned on May 19, 2004, regarding the outstanding rejections under 35 U.S.C. §112, second paragraph, and 35 U.S.C. §103(a). The remarks and amendments set forth herein are consistent with the substance of the interview and are believed to address the outstanding issues as discussed during the interview.

Submitted herewith is a Request for Continued Examination (RCE) under 37 C.F.R. § 1.114 and Information Disclosure Statement including form PTO/SB/08B. The applicants respectfully request that the references listed on the form PTO/SB/08B be considered by the Examiner and that such consideration be made of record in the subject application.

Claims 18-26 have been rejected under 35 U.S.C. §112, second paragraph, as indefinite. The applicants respectfully submit that the recitation "under photoperiodic conditions" does not render the claims indefinite. The applicants respectfully submit that one of ordinary skill in the art would understand the term "photoperiodic" to mean periodic light, as opposed to constant light. However, in order to expedite prosecution and to lend greater clarity to the claimed subject matter, claim 18 has been amended to replace the recitation "under photoperiodic conditions" with "under periodic light". Accordingly, claims 19, 20, 21, 26 have been amended to replace "photoperiod" with "light period" to clearly maintain antecedent basis. In view of the amendment to the claim, the applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. 112, second paragraph.

Claims 18-26 have been rejected under 35 U.S.C. §103(a) as being obvious over Heide (*Physiol. Plant.*, 1977, 40:21-26) in view of Darrow ("The Strawberry", 1996, Holt *et al.*, pp. 355-

365). The applicants respectfully submit that the cited references, taken alone or in combination, do not teach or suggest the claimed invention. However, by this Amendment, the applicants have amended claim 18 to lend greater clarity to the claimed subject matter and to expedite prosecution of the subject application. The applicants have also added claims 27-33.

New claim 33 recites a method for conditioning containerized, vegetative strawberry plants to induce early flowering when subsequently transplanted, the method comprising: (a) growing the vegetative, containerized strawberry plants in a controlled-temperature environment for a first growing period of at least six weeks, under periodic light, and at a daytime temperature which reaches at least 30° C; and (b) growing the vegetative, containerized strawberry plants in a controlled-temperature environment for a second growing period under periodic light, after the first growing period, wherein the daytime temperature is reduced to 25° C or lower, thereby conditioning the vegetative, containerized strawberry plants to flower, upon transplantation, at a time of year that is not normally possible for the species of said strawberry plants in the absence of said conditioning.

Claim 18 has been amended to recite a method for conditioning containerized, vegetative strawberry plants to induce early flowering upon transplantation, comprising: (a) growing the vegetative, containerized strawberry plants in a controlled-temperature environment for a first growing period of at least six weeks, under periodic light, and at a daytime temperature which reaches at least 30° C; (b) growing the vegetative, containerized strawberry plants in a controlled-temperature environment for a second growing period under periodic light, after the first growing period, wherein the daytime temperature is reduced to 25° C or lower, thereby conditioning the vegetative, containerized strawberry plants for flower induction; and (c) transplanting the vegetative, conditioned strawberry plants, wherein the vegetative, conditioned strawberry plants are thereby induced to flower at a time of year that is not normally possible for the species of the strawberry plants in the absence of the conditioning.

Support for the amendment to claim 18 can be found, for example, at page 1, lines 28-29, page 2, lines 17-26, page 3, lines 1-16 and 21-26; page 4, lines 1-4 and 18-21 (Example 1), of the specification, and the claims as originally filed. Support for new claims 27 and 28 can be found, for example, at page 4, lines 1-4, of the specification, and the claims as originally filed. Support for new claims 29-31 can be found, for example, at page 1, lines 16-22, of the specification. Support for new

claim 32 can be found, for example, at page 1, lines 28-29, page 2, lines 1-3, page 3, lines 24-26, and page 4, lines 18-21 of the specification. Support for new claim 33 can be found, for example, at page 1, lines 28-29, page 2, lines 17-26, page 3, lines 1-16 and 21-26; page 4, lines 1-4 and 18-21, of the specification, and the claims as originally filed.

In response to the applicants' arguments, at page 3 of the Office Action mailed June 3, 2003, it was indicated that Heide induced flowering by lowering the temperature of cool climate varieties from 24 °C to 18 °C or 24 °C to 12 °C. As indicated at pages 22-23 of Heide, plants were maintained at 24 °C for a time, and different plant samples were subsequently exposed to temperatures of 12°C, 18 °C, or 24 °C, for photoperiods of 10 hours, 12, hours, 14 hours, 16 hours, or 24 hours, depending on each particular sample's treatment regimen. However, as indicated at page 21, second column, line 5 of the Materials and Methods section in Heide, before the plants were subjected to their respective treatments, they were maintained for three weeks at "24 °C and continuous light". Thus, during the three-week period before the temperature was reduced, the plants were maintained under continuous light at 24 °C. In contrast, claims 18 and 33 of the subject application recite that the strawberry plants are grown for a first growing period of at least six weeks under periodic light and at a daytime temperature which reaches at least 30° C.

The experiments conducted by Heide were designed to determine optimum temperature and optimum photoperiod (as constant conditions), not to determine optimum changes in temperature and light period duration (see the abstract and paragraph bridging pages 22-23 of Heide). This is evidenced by the fact that, during the period before treatment, the plants were merely normalized for the experiment, *i.e.*, grown in constant temperature (24 °C) and in constant light (*i.e.*, lacking periodicity) for three weeks, so that uniform plants with 3 to 4 developed leaves could be obtained (see sentence bridging pages 21 and 22 of Heide).

The experiment in Heide was commenced by subjecting different plant samples to a constant temperature for a particular daylight period, depending upon the treatment group. As indicated in the Declaration by Dr. Craig Chandler under 37 C.F.R. §1.132, which was previously submitted with the Amendment dated September 12, 2002, "the effect of reducing daytime temperature for a particular plant (or sample of plants) from one growing period to the next growing period was not evaluated"

by Heide. Further, after termination of treatments, the plants were returned to 24° C and continuous light and evaluated. Heide does not indicate that the treated plants were transplanted to soil.

The secondary reference (Darrow) does not cure the defects of the primary reference. As explained by Dr. Cantliffe in his Declaration under 37 C.F.R. §1.132, which was previously submitted with the Amendment dated March 28, 2003, Darrow merely teaches that long photoperiods and cool nights are considered favorable for flowering in strawberry cultivars that are field grown. Page 357 of Darrow merely indicates that strawberries have adapted to a variety of climates, including a wide range of temperatures, such as –60 °F in Alaska and 115 °F in California. This is merely a statement of temperature conditions in which strawberries have been found capable of growth. Darrow provides no information regarding the effects of reducing temperature and duration of light period on flower induction upon transplantation, particularly the daytime temperature and light period changes recited in the currently pending claims. Darrow provides no motivation to modify the procedures described by Heide in a manner such that plants are grown for a first growing period of at least six weeks under periodic light at a daytime temperature which reaches at least 30 °C, and wherein the daytime temperature is subsequently reduced to 25 °C or less in a second growing period under periodic light, thereby conditioning the strawberry plants, in order to induce flowering, upon transplantation, at a time of the year that is not normally possible for the species of the strawberry plants in the absence of the conditioning.

The Heide and Darrow publications, when considered alone or taken together, do not teach or suggest the invention as claimed.

The applicants respectfully submit that there is no suggestion or motivation in the prior art references that would lead a person skilled in the art to arrive at the subject invention. As a matter of law, a finding of obviousness is proper only when the prior art contains a suggestion or teaching of the claimed invention. The mere fact that the purported prior art could have been modified or applied in a manner to yield the applicants' invention would not have made the modification or application obvious unless the prior art references suggested the desirability of the modification. *In re Gordon*, 221 USPQ 1125, 1127 (Fed. Cir. 1984). Moreover, as expressed by the CAFC, to support a §103 rejection, “[b]oth the suggestion and the expectation of success must be founded in the prior art” *In re Dow Chemical Co., supra* at 1531.

As shown by the foregoing remarks, neither of the cited references provides the suggestion or the expectation of success in subjecting containerized strawberry plants to either daytime or nighttime temperatures of at least 30°C for a period of at least six weeks under periodic light, and to then reduce the daytime temperatures to 25°C or less in a second growing period under periodic light, to condition the strawberry plants, such that the strawberry plants will be induced to initiate flowering, when subsequently transplanted, at a time of the year that is not normally possible for the species of the strawberry plants in the absence of the conditioning. As indicated at page 3, lines 24-26, of the subject specification, containerized transplants conditioned for flower initiation using the method of the present invention can produce large quantities of high quality fruit, and their early production attains a premium value.

An assertion of obviousness without the required suggestion or expectation of success in the prior art is tantamount to using the applicants' disclosure to reconstruct the prior art references to arrive at the subject invention. This was specifically recognized by the CCPA in *In re Sponnoble*, 56 CCPA 823, 160 USPQ 237, 243 (1969):

The Court must be ever alert not to read obviousness into an invention on the basis of the applicant's own statements; that is we must review the prior art without reading into that art appellant's teachings. *In re Murray*, 46 CCPA 905, 268 F.2d 226, 112 USPQ 364 (1959); *In re Srock*, 49 CCPA 1039, 301 F.2d 686, 133 USPQ 360 (1962). The issue, then, is whether the teachings of the prior art would, in and of themselves and without the benefits of appellant's disclosure, make the invention as a whole, obvious. *In re Leonor*, 55 CCPA 1198, 395 F.2d 801, 158 USPQ 20 (1968). (Emphasis in original)

Here, it is only the applicants' disclosure that provides the teaching to expose containerized strawberry plants to daytime temperatures of at least 30°C for at least six weeks under periodic light, and to then reduce the daytime temperatures to 25°C or less in a subsequent growing period under periodic light, in order to condition the strawberry plants to induce early flowering upon transplantation in conditions that are not normally conducive to flowering for the plants, and the applicants' disclosure cannot be used to reconstruct the prior art references for a rejection under §103. In view of the foregoing remarks and amendments to the claims, reconsideration and withdrawal of the rejection under 35 U.S.C. §103(a) is respectfully requested.

In view of the foregoing remarks and amendments to the claims, the applicants believe that the currently pending claims are in condition for allowance, and such action is respectfully requested.

The Commissioner is hereby authorized to charge any fees under 37 C.F.R. §§ 1.16 or 1.17 as required by this paper to Deposit Account 19-0065.

The applicants invite the Examiner to call the undersigned if clarification is needed on any of this response, or if the Examiner believes a telephonic interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,



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Attachments: Petition and Fee for Extension of Time
Request for Continued Examination (RCE)
Information Disclosure Statement (IDS)